(5) Top Level Connection

The 8 bit MUX shown is made from a cascade of smaller MUXes. The 3  
control bits select from 8 operations:  
  
0: ADD  
1: SUB  
2: NOP  
3: SHIFT  
4: AND  
5: OR  
6: PASS A  
7: MULT

1

2

3

4

5

6

7

3

ALUout – 16b

16

8

8

0

1

Carry-out

CLK

2

0

16

16

16

16

16

16

Control (0th bit)

Carry-in

ADD/ SUB

SHIFT

AND

OR

PASS A

Multiply

Bin -16b

Ain – 16b

reg – 16b

reg – 16b

16

16

16

16

16

Control – 3b